

MARKED VERSION OF AMENDMENTS

The paragraph beginning on page 11, line 27 of the specification has been amended as follows:

When the silica magnetic particles have ion exchange ligands covalently attached thereto, the silica-based surface material acts primarily as a solid support for the ion exchange ligands, which enable the particles to form complexes with the various solutes to be isolated or removed from any given solution. When used to isolate a target nucleic acid, the ion exchange ligands are preferably capable of forming a complex with the target nucleic acid by exchanging therewith at one pH, and of releasing the target nucleic acid at another pH. The most preferred ion exchange ligands are ones which complex with the target nucleic acid at a pH which is lower than a neutral pH, and which release the target nucleic acid at about a neutral pH and in low salt conditions, so the target nucleic acid released therein can be used immediately, without concentration or further isolation. Such preferred ion exchange ligands and pH dependent ion exchange matrices which incorporate such ligands are described in U.S. Patent Application Ser. No. 09/312,172, now U.S. Patent No. 6,310,199, for an invention titled pH DEPENDENT ION EXCHANGE MATRIX AND METHOD OF USE IN THE ISOLATION OF NUCLEIC ACIDS, incorporated by reference herein, an application filed concurrently with the provisional patent application on which the present non-provisional patent application is based.

7. [The] A method of [claim 6] clearing a solution of disrupted biological material other than target nucleic acids, according to steps comprising:

- (a) providing a solution comprising a disrupted biological material;
- (b) combining the solution with magnetic particles under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs directly to the particles, thereby forming a complex, wherein the [magnetic particles are] pH dependent ion exchange particles are selected from the group consisting of glycidyl-histidine modified silica magnetic particles, and glycidyl-alanine modified silica magnetic particles; and
- (c) separating the complex from the solution by application of magnetic force.

13. The method of claim 8, wherein the [second] magnetic particles are silica magnetic particles.

14. The method of claim 8, wherein the [second] magnetic particles are [second] pH dependent ion exchange magnetic particles.

15. [The] A method of [claim 14, wherein the] clearing a solution of disrupted biological material other than target nucleic acids, according to steps comprising:

- (a) providing a solution comprising a disrupted biological material;
- (b) combining the solution of step (a) with magnetic particles under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs directly to the particles, thereby forming a complex pH dependent ion exchange particles are selected from the group consisting of glycidyl-histidine modified silica magnetic particles and glycidyl-alanine modified silica magnetic particles; and
- (c) separating the complex from the solution by application of magnetic force.

16. A [The] method of [claim 8 wherein the method further comprises producing the] clearing a solution of disrupted biological material [provided in step (a)] other than target nucleic acids, according to the steps comprising:

- (a) combining a solution with cells contained therein with first magnetic particles, under conditions wherein the cells [form a complex with] selectively adsorb directly to the first magnetic particles;
- (b) isolating the complex from the solution by application of magnetic force; [and]
- (c) disrupting the cells to provide a solution comprising a disrupted biological material;
- (d) combining the solution of step (c) with second magnetic particles under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs directly to the second magnetic particles, thereby forming a complex; and
- (e) separating the complex of step (d) from the solution of step (d) by application of magnetic force.

19. A [The] method of [claim 18, wherein the] clearing a solution of disrupted biological material other than target nucleic acids, according to the steps comprising:

(a) combining a solution with cells contained therein with first pH-dependent ion exchange magnetic particles [are] selected from the group consisting of glycidyl-histidine modified silica magnetic particles, and glycidyl-alanine modified silica magnetic particles, under conditions wherein the cells selectively adsorb directly to the first pH-dependent ion exchange magnetic particles;

(b) isolating the complex from the solution by application of magnetic force;

(c) disrupting the cells to provide a solution comprising a disrupted biological material;

(d) combining the solution of step (c) with second magnetic particles under conditions wherein the disrupted biological material other than target nucleic acids selectively adsorbs directly to the second magnetic particles, thereby forming a complex; and

(e) separating the complex of step (d) from the solution of step (d) by application of magnetic force.